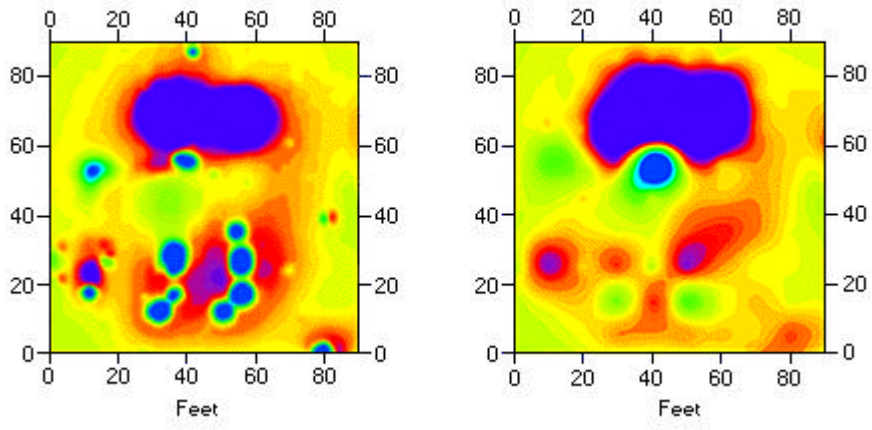
Specialists in High Resolution Magnetics



Rapid Geophysical Surveyor - Grid spacing 6" X 12" vs Conventional Survey - Grid Spacing 10' X 10'

Target: UST / valves / 1 " dia sample ports
Depth: Tanks - 15 feet valves and sample ports 1-3 feet
Sample Spacing: 6 inch by 12 inch
No. Samples: 40,000
Survey Area: 1/2 acre
Survey time: 2 hours

Rapid Geophysical Surveyor

The Rapid Geophysical Surveyor (RGS) is a unique technology jointly developed by Sage Earth Science and the U.S. Department of Energy. The system will cost effectively collect very closely spaced magnetic field data. Such surveys are performed to locate buried objects such as:

- 55-gallon steel drums
- underground storage tanks
- buried waste
- utilities
- unexploded ordnance

Conventional magnetic field surveys are typically conducted with 2 to 4 meters between data points. The RGS will collect data with less than 0.2 meters between stations and do so at brisk walking speeds. This produces a dramatic increase in resolution of the data and lowers the cost of the survey through significantly higher productivity.

System description

The novelty of the system lies in the use of fast cycling magnetic field sensors directly integrated with a positioning system and data logger. The positioning system increases productivity by reducing the amount of surveying required. The data logger automatically logs the position of the sensors and simultaneously records the magnetic field data at each position. Data are collected along multiple

profiles using a rolling wheel as an odometer to provide the distance traveled along profile.

Survey Description

Data are normally logged from two sensors spaced at an interval appropriate for the survey objective typically 0.5 to 1.0 meter. The boundaries of the site are flagged and site is covered with a series of parallel profiles in a manner similar to mowing a lawn.

System Productivity

At 0.5 meter profile spacing as many as 5 acres per day can be surveyed. At this spacing more than 50,000 data points per acre will be generated compared to 1,000 points per acre with a more conventional 2 meter grid. The difference in resolution is dramatic and is often the difference between confident conclusions and an unsuccessful survey.

Cost Savings

The cost per data point is dramatically reduced with the RGS approach.

Conventional
$2.50/pt.

RGS
$0.005/pt.

Because 50 to 100 times more data points are collected each day with the RGS, the over all cost of the data acquisition is comparable, but the quality of the final product is not. The system is very portable so has no significant mobilization costs. The equipment is normally transported as checked airline baggage that travels with a standard field crew of two.

Site Applicability

Because of the small size, light weight, and narrow profile, the RGS can be deployed in a significantly wider range conditions of topography and vegetation cover than competing systems.

Rapid Geophysical Surveyor

For additional information contact Glen Carpenter at:

Sage Earth Science
2300 N. Yellowstone Hwy. #206
Idaho Falls, ID 83401
Voice: (208)522-5049
FAX: (208) 528-7127
Email ses@srv.net
